



October 2007

Acquisition Protocols for Multiple Impression Cartridge Cases

These specific acquisition protocols are to accommodate multiple ejector marks and specific rimfire firing pin shapes sometimes seen in the field. These protocols require multiple acquisitions of the same cartridge case as separate exhibits.

Please note that this protocol is very specific and may not necessarily apply to all Agencies depending on their standard operating procedures regarding IBIS.

These acquisition protocols are for the following situations:

1. 1. Center Fire cartridge cases
- .2. Rimfire cartridge cases
 - .a. Firearm models that have a "bar" type firing pin
 - .b. Firearm models that have a "double" type firing pin (opposite edges)
 - .c. Firearm models that have a "double" type firing pin (superposed)
 - a. That have been reloaded and/or cycled through a firearm more than once
 - b. That have been fired through a firearm whose design uses multiple ejectors (ex: the Vz.61 Skorpion)



Center Fire Cartridge Cases - Ejector Marks

1. Acquisition Protocol

**Note: The order in which the ejector marks are entered is not important and will have no effect on the correlation. It is to the operators' discretion to choose which will be acquired first, second, etc.*

1.1. Exhibit 1

1. 1.1.1. Create Exhibit 1 in the appropriate Case using the standard demographic protocol utilized at your laboratory and add the following code right after the exhibit number in the exhibit number field: "(EM1)"
2. 1.1.2. Acquire the cartridge case breech face and firing pin images (BF1, BF2 and FP) according to the standard acquisition protocols

3. 1.1.3. Acquire one of the two ejector marks according to the standard acquisition protocols. The operator chooses which mark is to be entered first (the other one(s) will be acquired as Exhibit 2, 3, etc...).

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.1.2. Exhibit 2

1. 1.2.1. Create Exhibit 2 in the same Case using the standard demographic protocol utilized at your laboratory and add the following code right after the exhibit number in the exhibit number field: "(EM2)"
2. 1.2.2. Acquire the other ejector mark according to the standard acquisition protocols.
2. 1.3. *Exhibit n (n=number)*
 - 1.3.1. Repeat process 1.2 as necessary and increase the code number in the exhibit number field accordingly.

**Note: When creating each exhibit, the Comments field can be used to make reference to the relationship between each acquisition.*

2. Correlation Results Analysis

1. 2.1. Review the first set of results as usual by analyzing every region of interests (breach face, firing pin and ejector mark).
2. 2.2. Review the other sets by only analyzing the ejector mark results.

Rimfire Cartridge Cases – Firing Pin Impressions

1. Acquisition Protocol

**Note: For firing pins that strike as a “bar” (a) or as “double strike opposite edges” (b) the order in which the marks or regions are entered is not important and will have no effect on the correlation. It is to the operators’ discretion to choose which will be acquired first and second. For the “superposed double strike” (c) it is recommended that the higher of the two impressions be captured first.*

.1.1. Exhibit 1

1. 1.1.1. Create Exhibit 1 in the appropriate Case using the standard demographic protocol utilized at your laboratory and add the following code right after the exhibit number in the exhibit number field: “(RF1)”
2. 1.1.2. Acquire the first of the two impressions or, in the case of the “bar”, as much of one side of the impression** according to the standard acquisition protocols.

.1.2. Exhibit 2

1. 1.2.1. Create Exhibit 2 in the same Case using the standard demographic protocol utilized at your laboratory and add the following code right after the exhibit number in the exhibit number field: “(RF2)”
2. 1.2.2. For “bar” and “double strike opposite edges” impressions: Rotate the cartridge case 180 degrees and acquire the other impression or as much as the other side of the impression** according to the standard acquisition protocols.

For “double strike superposed” impressions: Align and acquire the lower impression according to the standard acquisition protocols.

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****** *When entering a bar type firing pin impression, acquire as much as possible of the impression seen in the field of view of the acquisition mode.*

2. Correlation Results Analysis

1. 2.1. *Review the first set of results*
2. 2.2. *Review the second set of results*

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